UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,6-15,17,20,21,23-30,32,33,35-38,40,41,43 and 45* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6-15,17,20,21,23-30,32,33,35-38,40,41,43 and 45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed on 6/3/2009 has been entered. Claims 1, 3, 4, 6-15, 17, 20,

21, 23-30, 32, 33, 35-38, 40, 41, 43 and 45 are still pending in this application.

Response to Arguments

Applicant's arguments filed have been fully considered but they are not

persuasive.

Regarding applicants' arguments that Young fails to disclose "beaconing

according to a distributed Ultra Wideband Medium Access Control protocol by the host

and the at least one connected device" (pages 12-14), the examiner respectfully

disagrees. Applicants admitted that the "WUSB will use UWB MBOA MAC as a means

to communicate between a host 101 and connected devices 102 over the wireless

medium, see MBOA Wireless Medium Access Control Specification for High Rate

Wireless Personal Area Networks, Technical Specification, Draft 0.5, April 2004, which

is hereby incorporated by reference as if fully set forth herein" ([0007]). The cover page

of the incorporated reference is referred as IEEE standards 802.15.3. Young discloses

a coordinator beaconing devices according to a predetermined protocol. Young shows

some exemplary protocols including 802.15.3 ([0026]). In addition, Young discusses a

device may act as the coordinator and is responsible for periodically sending beacon

signals to manage network operations. Coordinator controls timing, allocation of

channel time to devices and coordinate communication between devices (see e.g.

[0018][0027][0036]). Therefore Young shows the limitation of "beaconing according to a

distributed Ultra Wideband Medium Access Control protocol by the host and the at least

one connected device", and "start beaconing according to a distributed Ultra WideBand

Medium Access Control (UWB MAC) protocol and announce host capabilities."

Regarding applicants arguments that references of record do not disclose

"wherein the controller directs the device data transfer processing component to set an

offset field and a duration field in each DRP reservation to a multiple of a predetermined

value if distributed reservation is supported" (pages 12-13), the examiner respectfully

disagrees. Young discloses that the reservation is established using offset and duration

values ([0033][0034]). Choi disclose reservations are set to a multiple of time slots. A

time slot is predetermined value and is usually a design choice (see e.g. [0047]-[0048]

and Fig. 2). Therefore Young in view of Choi discloses "wherein the controller directs

the device data transfer processing component to set an offset field and a duration field

in each DRP reservation to a multiple of a predetermined value if distributed reservation

is supported."

Concerning the applicants' arguments regarding combination of references, both

of the references are from the same field, i.e. communication systems and concern

analogous topics. Therefore, the examiner contends that the references would be

combinable to one skilled in the art.

Therefore, the argued limitations read upon the cited references or are written

broad such that they read upon the cited references, as follow.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 6, 14, 15, 20, 28, 35-36, 40 and 45 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Young (US 2005/0169292) in view of Choi (US

2004/0264428).

Regarding claim 1, Young discloses a method for host-device communication in

a first Wireless Universal Serial Bus (WUSB) network including a host and at least one

connected device (see Abstract, [0026]-[0027]), comprising:

beaconing according to a distributed Ultra WideBand Medium Access Control protocol

by the host and the at least one connected device ([0018] coordinator beaconing

according to a pre-determined protocol and some of the exemplary protocols are

described in [0026], Which includes 802.15.3 under which Ultra WideBand Medium

Access Control protocol falls); receiving Device Notification Traffic by the host ([0026]

coordinator receiving traffic request); and operating the WUSB network by the host

according to the capabilities of the connected devices (i.e. see [0026][0027]

[0030][0041]), wherein an offset field and a duration field in a Distributed Reservation

Protocol are set to a predetermined value if distributed reservation is supported ([0034]-

[0035] reservation is established using offset and duration values).

Young discloses reservations are set to a predetermined value but does not

explicitly disclose reservations are set to a multiple of a predetermined value. Choi

disclose reservations are set to a multiple of a predetermined value ([0048] multiple of time slots).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Young, to set the reservation time a multiple of a set value, as taught by Choi, thus allowing a more efficient way of utilizing time slots ([0052]).

Regarding claim 20, Young discloses a host apparatus for host-device communication in a first Wireless Universal Serial Bus (WUSB) network including the host and at least one connected device(at least see Abstract, [0026]-[0027]), comprising: a transmitter for sending beacons, traffic notifications, medium reservations and data ([0026]-[0027] coordinator sending information therefore a transmitter); a receiver for receiving beacons, traffic notifications, medium reservations and data ([0026]-[0027] coordinator receiving information therefore a receiver);

a host data transfer processing component that processes data transferred between the host and the at least one connected device ([0026]-[0027]); and a controller operably coupled to the transmitter (i.e. Abstract [0026]-[0027]), receiver and host data transfer processing component and configured to direct the transmitter ([0026]-[0027]), receiver and host data transfer processing component to start beaconing according to a distributed Ultra WideBand Medium Access Control (UWB MAC) protocol and announce host capabilities ([0026]-[0027]), receive and process according to a distributed UWB MAC protocol([0018] coordinator beaconing according to a pre-determined protocol and some of the exemplary protocols are described in [0026]), beacons of the at least one

connected device including capabilities of the at least one device ([0040][0041]),

receive and process Device Notification Traffic (DNT traffic) ([0026]-[0027]), and start

and control WUSB operation of the network([0026]-[0027]), wherein the controller

directs the device data transfer processing component to set an offset field and a

duration field in each DRP reservation to a predetermined value if distributed

reservation is supported ([0034]-[0035] reservation is established using offset and

duration values).

Young discloses reservations are set to a predetermined value but does not

explicitly disclose reservations are set to a multiple of a predetermined value. Choi

disclose reservations are set to a multiple of a predetermined value ([0048] multiple of

time slots).

Therefore, it would have been obvious to a person having ordinary skill in the art

at the time the invention was made to modify the invention of Young, to set the

reservation time a multiple of a set value, as taught by Choi, thus allowing a more

efficient way of utilizing time slots ([0052]).

Regarding claim 28, Young discloses a method for host-device communication in

a Wireless Universal Serial Bus (WUSB) network including a host and at least one

connected device (at least see Abstract, [0026][0027]), comprising:

beaconing according to a distributed Ultra WideBand Medium Access Control (UWB

MAC) protocol by the host and the at least one connected device([0026]-[0027]);

the host establishing a multicast reservation between the host and the at least one

connected device([0026]-[0027][0029][0034]); and running a WUSB protocol inside the

multicast reservation([0026]-[0027][0034]), wherein an offset field and a duration field in a Distributed Reservation Protocol (DRP) are set to a predetermined value if distributed reservation is supported ([0034]-[0035] reservation is established using offset and duration values).

Young discloses reservations are set to a predetermined value but does not explicitly disclose reservations are set to a multiple of a predetermined value. Choi disclose reservations are set to a multiple of a predetermined value ([0048] multiple of time slots).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Young, to set the reservation time a multiple of a set value, as taught by Choi, thus allowing a more efficient way of utilizing time slots ([0052]).

Regarding claim 36, Young discloses a method for host-device communication in a Wireless Universal Serial Bus (WUSB) network including a host and at least one connected device(at least see Abstract, [0026][0027]), comprising:
beaconing according to a distributed Ultra WideBand Medium Access Control (UWB) MAC protocol by the host and the at least one connected device ([0018] coordinator beaconing according to a pre-determined protocol and some of the exemplary protocols are described in [0026]); establishing unicast reservations between the host and the at least one connected device ([0026]-[0027]); and running a WUSB protocol inside the unicast reservations ([0026]-[0027][0034]).

Regarding claims 6, 35, 40 and 45, Young discloses the method of claim 1,

further comprising the at least one connected device discovering the host via the host

beacon ([0029][0030]).

Regarding claims 14 and 15, Young discloses the method of claim 13, further

comprising the at least one connected device acting as a host in a second WUSB

network and performing at least some of the steps performed by the host of the first

WUSB network ([0050]-[0056]).

3.   Claims 4, 7-10, 12, 21, 24-25, 33, 37-38, 41 and 43 are rejected under 35 U.S.C.

103(a) as being unpatentable over Young, in view of Choi, further in view of Gu et al.

(US 2005/0052995)

Regarding claim 41, Young discloses a method for host-device communication in

a Wireless Universal Serial Bus (WUSB) network including a host and at least one

connected device (at least see Abstract, [0026][0027]), comprising:

beaconing according to a distributed Ultra WideBand Medium Access Control (UWB

MAC) protocol by the host and the at least one connected device ([0018] coordinator

beaconing according to a pre-determined protocol and some of the exemplary protocols

are described in [0026]).

Young fails to disclose the host polling the at least one connected device to

request that the at least one connected device transmit data; and the host receiving

data from the at least one connected device as a result of the poll. Choi teaches

discloses the host polling the at least one connected device to request that the at least

one connected device transmit data; and the host receiving data from the at least one

connected device as a result of the poll ([0011]-[0013]).

Therefore, it would have been obvious to a person having ordinary skill in the art

at the time the invention was made to modify the invention of Young, to have the host to

poll the devices to transmit data, as taught by Choi, thus allowing a collision free data

transmission without contention between devices ([0011]).

Young discloses the host using contention free to access medium ([0005]) but

fails to disclose the host using an Enhanced Distributed Channel Access (EDCA)

mechanism to access the medium; Choi teaches the host using a contention based

mechanism to access media (Choi's [0010][0017]) but fails to disclose the hosting using

an Enhanced Distributed Channel Access mechanism to access the medium. Gu

teaches the hosting using an Enhanced Distributed Channel Access mechanism to

access the medium (see Gu's [0007][0008][0035]).

Therefore, it would have been obvious to a person having ordinary skill in the art

at the time the invention was made to modify the invention of Young and Choi, to

incorporate priority to contention windows to differentiate packets, as taught by Gu, thus

allowing an improved mechanism to give priority to treat data packets differently based

on their priorities (Gu's [0007][0008]).

Regarding claims 4, 7-10, 12, 24-25, 33, 37-38 and 43, combination of Young,

Choi and Gu teaches using signaling in the beacons to indicate traffic, using reservation

to reserve time slots for data transmission, using both contention based and contention

free mechanisms to access media.

Regarding claim 21, combination of Young, Choi and Gu discloses the host apparatus of claim 20, wherein the controller is further configured to direct the transmitter, receiver and host data transfer processing component to: include multicast Distributed Reservation Protocol (DRP) in beacons and then start micro-scheduling operation if multicast DRP is supported; receive and process DNT traffic and if only unicast DRP is supported by the connected device negotiate unicast DRP with the at least one connected device and then start WUSB operation; and receive and process DNT traffic and if only Enhanced Distributed Channel Access is supported by the connected device start WUSB operation with poll frame using EDCA.

4.   Claims 3, 13, 23, 26-27, 29-30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young, in view of Choi and further in view of IEEE Std 802.15.3-2003, hereinafter referred to as IEEE.

Regarding claims 3, 23 and 32, Young in view of Choi discloses the method of claim 1, but fails to teach the method wherein the predetermined value is 625usec. IEEE teaches the predetermined value (section 7.5.6.1, time unit is user specific and can be any value in the range of [0, 655535]μsec and 625μsec is within this range).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Young in view of Choi, to specify a time slot for reservation suitable for the wireless network, as taught by IEEE, thus allowing a more efficient use of time slots.

Regarding claims 13, 26, 27 and 30, combination of Young and Choi discloses requesting reservation for data transmission but fails to disclose initiating a second

reservation request when the first request is not accepted. IEEE teaches initiating a

second reservation request when the first request is not accepted (at least see section

8.5.1.1).

Therefore, it would have been obvious to a person having ordinary skill in the art

at the time the invention was made to modify the invention of Young and Choi, to

request a reservation second time if the first request is denied, as taught by IEEE, thus

providing a better mechanism for allowing non-accepting devices to make a reservation

for data transmission (section 8.5.1.1).

Regarding claim 29, combination of Young, Choi and IEEE discloses the method

of claim 28, wherein the establishing and running each further comprise reserving

channel resources by inclusion of a multicast reservation information element in

beacons to achieve a first reservation; micro-scheduling the channel resources of the

multicast reservation among those connected devices of the at least one connected

device that accepted the multicast reservation; and receiving data from the at least one

connected device.

<div align="center">***Conclusion***</div>

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KATHY WANG-HURST whose telephone number is

(571) 270-5371. The examiner can normally be reached on Monday-Thursday, 7:30am-

5pm, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KATHY WANG-HURST/

Examiner, Art Unit 2617

/NICK CORSARO/
Supervisory Patent Examiner, Art Unit 2617